Maine Department of Environmental Protection

Bureau of Land & Water Quality

O&M Newsletter

May 2007

A monthly newsletter for wastewater discharge licensees, treatment facility operators, and associated persons

Index

DMR-QA STUDY 27

Just a short note for those facilities that have been participating in the annual laboratory quality assurance studies. EPA tells me that you should have your 2007 booklets by mid-May as they are at the printers now. E-mail your verification to EPA when the booklet arrives at your plant. This should be

done by May 25, 2007. Order your test samples in early June.

This year the freshwater dischargers must order the *E. coli* unknown for bacteria. The marine dischargers should continue to order the Fecal Coli form unknown like last year. If an analyte is on both your MEPDES permit and the Analyte Checklist, you are required to perform quality assurance testing on that parameter for DMR-QA purposes.

See page 5 “Checklist and Schedule for DMR-QA Study 27”. Under the August 31, 2007 Deadline, see the part about mailing the original data package to the state coordinator. As in the past my policy on receiving the un-graded data package is simple. *Please do not mail me any un-graded data packages.* I don’t even want any graded data packages from the permittees. I’ll get them from the PT provider labs by October 26, 2007. You would only be

duplicating what already happens automatically.

Good luck with the analysis of the unknown samples this summer. Please report your results on-line to your provider lab before the August 31, 2007 deadline or they will be considered invalid! I advise you to do it in June or July, if possible. This eliminates the largest cause of failing the DMR-QA Study. Do it early before you get too busy and forget about it.

Ken Jones
State DMR-QA Coordinator
(207) 287-4869

Spring 2007 Exams

The spring exam was given in the usual locations on Wednesday, May 16, 2007. If you took the exam, you will receive the results as soon as we get them. It usually takes 4 to 6 weeks after the exam date for us to get the results. Please don't call in a week and expect us to have the results.

If you missed the deadline for the Spring exam, the next exam will be given on November, 14, 2007

Updates to the new 40 CFR in 2007

If you read last month's O & M news you know that there are changes afoot with 40 CFR. You need to be aware that there were two published modifications. The first one occurred on March 12th (40 CFR Parts 122, 136, et al) and the second one occurred on March 26th (40 CFR Parts 136 and 503). The second modification is much shorter and that is where you will find information on the new bacteria and sludge methods. There is a tremendous amount of information in the new documents and Department staff are wading through various sections to identify changes. Some of these changes may require you to do something different in your lab. So, as needed, the Department will give updates in this publication. If you haven't gotten copies of the updated CFR's, please get them (you can contact your inspector) so that you can become familiar with them yourselves. If you have questions or see some other changes that we haven't mentioned then please contact your inspector. We'll make sure to pass on the information so that we all have a smooth transition with these new 40 CFR's.

BOD Holding Times

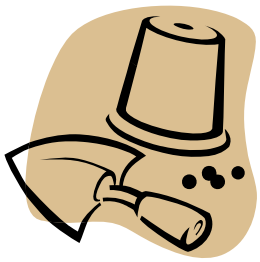
The newly issued part 136.3 discussion of holding times (Table II, either publication) reports a hold time for biochemical oxygen demand of 48 hours. What should I use, DEP's hold time policy (June 2004), Standard Methods policy or the new 40 CFR guideline?
In June of 2004, the Department developed a policy statement with regards to BOD holding time. That Policy is still in effect. It says that facilities must adhere to a 6 hour holding time for samples that are analyzed on-site and 24 hours for samples that are sent out to a commercial laboratory. The holding time begins immediately after a grab or a complete composite sample is collected by the operator. The Policy does allow for exceptions to the 24 holding time in certain situations but a formal request must be submitted to the Department for review and approval. The basis for this decision is that 40 CFR does point out that the holding

times in Table II of Part 136 are the maximum and samples should be analyzed as soon as possible after collection (footnote 4). When you read Standard Methods you will see that a 24 hour holding time is recommended.

Total Suspended Solids (TSS) Modifications

What drying time should I use?

Just for clarity, the SM TSS method (2540 D) requires at least 1 hour of drying at 103-105° followed by desiccating and weighing. This cycle is repeated to obtain a constant weight or less then a 4% change from the previous weight. If you are using the USGS method (I-3765) then you will see that it requires that the filter be dried overnight. You are free to use either of the approved methods but please be sure that you are citing the correct method in your lab SOP and following whichever method you are citing.



Transition to new E. coli test methods

What do I do with leftover chemicals from the previous method?

There are new methods available for E.coli analysis and you need to pick one. Some of you have already switched to the IDEXX system and others will choose to go with the Modified m-Tec (EPA 1603) method or m-ColiBlue24 (Hach 10029) method. Whatever your choice, you will need to purchase new reagents for these methods. Hopefully, you have been paying attention and are ready to make the switch before this disinfection season. If not, the Department is allowing a bit of leniency for you to use up your current reagents and make the switch as soon as possible.

New bacteria methods have some new QA (verification) procedures. Do I have to start including those procedures?

By the way, you'll notice some of the methods require more extensive QA and/or cost more then others. The Department will be coming up with some specific guidance on the QA issues in the near future. For now, everyone should (at least) be running a blank and positive for each analytical event and a replicate 10% of the time.

Also, make sure you are always running a dilution that will show an actual violation of your facility's effluent limit. For example if the daily max permit limit is 427 colonies/100 mls you need to run at least one dilution at 18 mls or less. So, if you get 80 or more colonies on the filter you can report an exceedence of the 427 colonies/100 ml limit. If you do the math, 80 or more colonies with an 18 ml sample would be calculated as 5.55 (100/18) X 80 = 444 colonies which is a clear violation of the effluent limit. Talk to your inspector if you have any questions.

Calendar Daze

There is some discrepancy between how I report calendar days now and what the new 40 CFR says. Which calendar day do I use for reporting data?

If you put on your reading glasses and work really hard you will see that footnote 4 under Table II in Part 136 says something a bit funky. It basically says that when you collect an automated composite sample that spans two calendar dates you have to report the collection date using the 2 days –like November 14-15. The Department does not believe this is necessary and is recommending that facilities continue to report the collection date for the day the largest portion of the composite sample was collected.

To find the most recent updates to 40 CFR go to EPA's website at http://www.epa.gov/epacfr40/chapt-I.info/chi-toc.htm

Clarissa Trasko

For Practice

1. If the supernatant from an aerobic digester has a high solids content, how will it most likely affect the activated sludge aeration basin?
   a. Increase the DO level.
   b. Increase the MCRT.
   c. Increase the F/M ratio.
   d. Increase the removal efficiency.

2. The concentration of dissolved oxygen that may be held in water
   a. Increases as temperature increased
   b. Decreases as temperature decreases
   c. Is independent of temperature
   d. Increases as temperature decreases

3. The type of solids that is the easiest to remove using a standard biological treatment process is.
   a. Inorganic suspended
   b. Inorganic dissolved
   c. Organic suspended
   d. Organic dissolved

4. The best description of activated sludge that has an MCRT of more than 20 days is:
   a. Young, poor settling, underoxidized
   b. Young, good settling, clear effluent
   c. Old, rapid settling, overoxidized
   d. Old, poor settling, underoxidized

Approved Training

May 15, 2007 in Belfast, ME - Bureau of Labor Standards: *Safety Update* - sponsored by WPTEC – Approved for 6 Safety hours
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May 22, 2007 in Houlton, ME - Bureau of Labor Standards: *Safety Update* - sponsored by WPTEC – Approved for 6 Safety hours
*****
May 30, 2007 in Bangor, ME – Chemical handling Safety - sponsored by MRWA – Approved for 4 Safety hours
*****
May 31, 2007 in Waterville, ME – Chemical handling Safety - sponsored by MRWA – Approved for 4 Safety hours
*****
May 31, 2007 in Madawaska, ME – Chemical handling Safety - sponsored by MRWA – Approved for 4 Safety hours
*****

May 31, 2007 in Saco, ME - Basic Instrumentation & Process Control Systems: *A Systems Approach* - sponsored by WPTEC – Approved for 6 hours
*****
June 6, 2007 in South Berwick, ME – Chemical handling Safety - sponsored by MRWA – Approved for 4 Safety hours
*****
June 6, 2007 in Topsham, ME - Coliform Bacteria: *Analytical Procedures* - sponsored by WPTEC – Approved for 6 hours
*****
June 13, 2007 in Topsham, ME - pH & Total Suspended Solids (TSS): *Analytical Procedures* - sponsored by WPTEC – Approved for 6 hours
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Note: JETCC stands for Joint Environmental Training Coordinating Committee – PO Box 487 – Scarborough, ME 04070-0487 – Tel (207) 253-8020

Efficiency Maine is a program of the Maine Public Utilities Commission - 18 State House Station, Augusta, ME 04333-0018
Tel: 207-287-8350

MRWA stands for Maine Rural Water Association - 14 Maine Street, Box 36 - Brunswick, ME 04011 – Tel (207) 729-6569

NEIWPCC stands for New England Interstate Water Pollution Control Commission – 116 John St. – Lowell, MA 01852-1124 – Tel (978) 323-7929

WPETC stands for Wright Pierce Environmental Training Center, 99 Main Street, Topsham, ME 04086 – Tel. 207-725-8721

Answers to *For Practice:*

1. c Any solids coming from the aerobic digester will be seen as food for the microorganisms in the mixed liquor. This will increase the F:M ratio.
2. d Cold water will hold more dissolved oxygen than warmer water.
3. d Dissolved organic solids are easily absorbed by the microorganisms in a biological treatment system.
4. c Sludge with and MCRT of more than 20 days will usually show old, compact, highly oxidized flocs that settle rapidly leaving a turbid supernatant.

Notice of Agency Rule-making Adoption

AGENCY: 06-096-Maine Department of Environmental Protection, jointly with 94-376, Maine Municipal Bond Bank

CHAPTER NUMBER AND TITLE: Chapter 595, State Revolving Fund

ADOPTED RULE NUMBER: 2007-172, 173

CONCISE SUMMARY

These proposed amendments will update the rule, originally adopted in 1990, to allow the use of the fund for additional water improvement practices, add flexibility for borrowers, pay for administration of the program and reflect changes to federal requirements regarding the program.

EFFECTIVE DATE: May 5, 2007

AGENCY CONTACT PERSONS:

Stephen A. McLaughlin, P.E.
Maine Department of Environmental Protection
17 State House Station
Augusta ME 04333-0017
207-287-7768

Karen L Asselin
Maine Municipal Bond Bank
3 University Dr. P.O. Box 2268
Augusta ME 04338-2268
207-622-9386